IN THE CLAIMS:

The status and content of each claim follows. No amendments to the claims are proposed by the present paper.

1. (previously presented) In a neurostimulator implant system having multiple electrode contacts through which electrical stimuli are adapted to be applied to tissue of a patient, and wherein an evoked compound action potential (ECAP) occurs in the tissue when an electrical stimulus of sufficient intensity has been applied to the tissue, and wherein the presence or absence of an ECAP in response to an applied stimulus serves as a useful objective indicator relative to the operation and functionality of the implant system, an improved method of eliciting an ECAP comprising the steps for:

generating electrical stimuli with selectable degrees of intensity;

delivering the electrical stimuli to at least two of the multiple electrode contacts, such that the at least two electrode contacts output an electrical current into the tissue, while gradually adjusting the intensity of the electrical stimuli and while monitoring for the occurrence of an ECAP with another separate electrode contact of the multiple electrode contacts;

noting the intensity of the applied electrical stimuli when the ECAP is first observed;

using the intensity of the electrical stimuli applied to the at least two electrode contacts that caused the ECAP to first occur as a guide to setting the intensity of the electrical stimuli of the neurostimulator implant system during operation of the neurostimulator implant system.

2. (original) The method of Claim 1 wherein the step for delivering the electrical stimuli to at least two of the multiple electrode contacts comprises delivering the electrical stimuli to at least two adjacent electrode contacts of the multiple electrode contacts.

3. (original) The method of Claim 2 wherein the step for monitoring at least one of the multiple electrode contacts for the occurrence of an ECAP comprises monitoring at

least one electrode contact near the at least two adjacent electrode contacts to which the electrical stimuli is delivered for the occurrence of an ECAP.

4. (original) The method of Claim 3 wherein the step for delivering the electrical stimuli to at least two adjacent electrode contacts of the multiple electrode contacts comprises simultaneously delivering the electrical stimuli to at least two adjacent electrode contacts of the multiple electrode contacts.

5. (original) The method of Claim 4 wherein the at least two electrode contacts to which the electrical stimuli is delivered comprises a first group of electrodes, and wherein the method further includes;

continuing to deliver electrical stimuli of varying intensities to select different groups of at least two adjacent electrode contacts while monitoring at least one electrode contact near the electrode contacts of the selected group for the occurrence of an ECAP;

noting the intensity of the applied electrical stimuli when the ECAP is first observed on the at least one electrode contact near the electrode contacts of the selected group;

forming a contour of intensity levels associated with all of the selected electrode groups of electrode contacts at which the ECAP is first observed; and

using the contour of intensity levels thus formed to define stimulation parameters thereafter used by the neurostimulation implant system to control the intensity of the electrical stimuli applied through the electrode contacts.

6. (original) The method of Claim 5 wherein each group of electrodes to which the electrical stimuli are delivered comprises at least four adjacent electrode contacts.

7. (previously presented) The method of Claim 3 wherein the step for delivering the electrical stimuli to at least two adjacent electrode contacts of the multiple electrode contacts comprises sequentially delivering the electrical stimuli to at least two adjacent electrode contacts of the multiple electrode contacts at a fast rate such that one occurrence of an ECAP is evoked.

8. (previously presented) The method of Claim 7 wherein the at least two electrode contacts to which the electrical stimuli is delivered comprise a first group of electrodes, and wherein the method further includes;

continuing to deliver electrical stimuli of varying intensities to select different groups of at least two adjacent electrode contacts while monitoring at least one electrode contact near the electrode contacts of the selected group for the occurrence of an ECAP;

noting the intensity of the applied electrical stimuli when the ECAP is first observed on the at least one electrode contact near the electrode contacts of the selected group;

forming a contour of intensity levels associated with all of the selected electrode groups of electrode contacts at which the ECAP is first observed; and

using the contour of intensity levels thus formed to define stimulation parameters thereafter used by the neurostimulation implant system to control the intensity of the electrical stimuli applied through the electrode contacts.

9. (original) The method of Claim 8 wherein each group of electrodes to which the electrical stimuli are delivered comprises at least four adjacent electrode contacts.

10. (previously presented) In a neurostimulator implant system having multiple spaced-apart electrode contacts and means for delivering electrical stimuli through selected ones of the multiple electrode contacts for the purpose of stimulating tissue of a patient, an improved neurostimulator implant system adapted to elicit an evoked compound action potential (ECAP) from the tissue of the patient when an electrical stimulus of sufficient intensity is applied to the tissue, comprising:

means for generating electrical stimuli with selectable degrees of intensity;

means for delivering the electrical stimuli to at least two of the multiple electrode contacts, such that the at least two electrode contacts output an electrical current into the tissue, while gradually adjusting the intensity of the electrical stimuli;

means for monitoring another separate electrode contact of the multiple electrode contacts for the occurrence of an ECAP, said separate electrode contact that is monitored being located near the at least two multiple electrode contacts to which the electrical stimuli is delivered;

means for noting the intensity of the applied electrical stimuli when the ECAP is first observed; and

means for using the intensity of the electrical stimuli applied to the at least two electrode contacts that caused the ECAP to first occur as a guide to setting the intensity of the electrical stimuli of the neurostimulator implant system during operation of the neurostimulator implant system.

11. (original) The system of Claim 10 wherein the means for delivering the electrical stimuli to at least two of the multiple electrode contacts comprises means for delivering the electrical stimuli to at least two adjacent electrode contacts of the multiple electrode contacts.

12. (original) The system of Claim 11 wherein the means for delivering the electrical stimuli to at least two adjacent electrode contacts comprises means for simultaneously delivering the electrical stimuli to the at least two adjacent electrode contacts of the multiple electrode contacts.

13. (original) The system of Claim 12 wherein the at least two electrode contacts to which the electrical stimuli is delivered comprises a first group of electrodes, and wherein the system further includes;

means for delivering electrical stimuli of varying intensities to select different groups of at least two adjacent electrode contacts while monitoring at least one electrode contact near the electrode contacts of the selected group for the occurrence of an ECAP;

means for noting the intensity of the applied electrical stimuli when the ECAP is first observed on the at least one electrode contact near the electrode contacts of the selected group;

means for forming a contour of intensity levels associated with all of the selected electrode groups of electrode contacts at which the ECAP is first observed; and

means for using the contour of intensity levels thus formed to define stimulation parameters thereafter used by the neurostimulation implant system to control the intensity of the electrical stimuli applied through the electrode contacts.

14. (previously presented) The system of Claim 11 wherein the means for delivering the electrical stimuli to at least two adjacent electrode contacts comprises means for sequentially delivering at a fast rate the electrical stimuli to the at least two adjacent electrode contacts of the multiple electrode contacts so as to evoke one occurrence of an ECAP.

15. (original) The system of Claim 14 wherein the at least two electrode contacts to which the electrical stimuli is delivered comprises a first group of electrodes, and wherein the system further includes;

means for delivering electrical stimuli of varying intensities to select different groups of at least two adjacent electrode contacts while monitoring at least one electrode contact near the electrode contacts of the selected group for the occurrence of an ECAP;

means for noting the intensity of the applied electrical stimuli when the ECAP is first observed on the at least one electrode contact near the electrode contacts of the selected group;

means for forming a contour of intensity levels associated with all of the selected electrode groups of electrode contacts at which the ECAP is first observed; and

means for using the contour of intensity levels thus formed to define stimulation parameters thereafter used by the neurostimulation implant system to control the intensity of the electrical stimuli applied through the electrode contacts.

16. (previously presented) A cochlear implant system comprising means for applying a stimulus pulse to at least two electrodes of multiple electrodes, either simultaneously or sequentially at a fast rate, said at least two electrodes outputting an electric current into patient tissue, in order elicit an objectively-determinable response indicative of appropriate stimulation levels for the system.

17. (original) The cochlear implant system of Claim 16 wherein the objectively-determinable response comprises an evoked compound action potential (ECAP) responsive to the applied stimulus.

18. (original) The cochlear implant system of Claim 17 further including means for using the ECAP as a correction factor for shifting a neural-response-derived contour.

19. (original) The cochlear implant system of Claim 16 wherein the objectively-determinable response comprises a stapedial reflex responsive to the applied stimulus.

20. (original) The cochlear implant system of Claim 19 further including means for using the stapedial reflex as a correction factor for shifting a neural-response-derived contour.

21. (previously presented) An implantable stimulator system for stimulating tissue, said stimulator system comprising:

a plurality of electrodes each of which is configured to selectively output an electrical current to the tissue, wherein the system is configured to output an electrical current with two or more of the plurality of electrodes, simultaneously or in rapid succession, so as to evoke a neural response;

an electrode for detecting the neural response caused by the electrical current output by the two or more electrodes;

wherein detection of said single neural response is used by said system along with parameters defining said electrical current that evoked said neural response to determine initial stimulation parameters for said implantable stimulator.

22. (previously presented) The system of claim 21, wherein the at least two electrodes output the electrical current simultaneously.

23. (previously presented) The system of claim 21, wherein the at least two electrodes output the electrical current in rapid succession such that a one occurrence of the neural response is evoked as a result.